Supplemental Online Content

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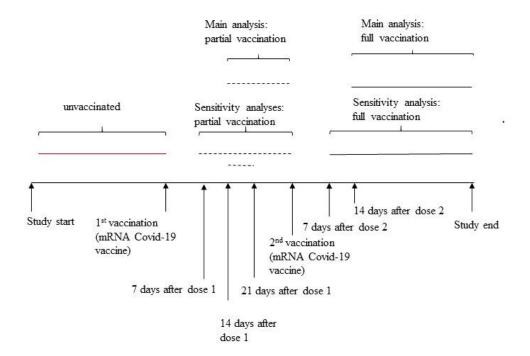
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This supplemental material has been provided by the authors to give readers additional information about their work.

eFigure. Vaccination Exposure Classification



eTable 1. Definitions of Variables

Variable	Values	Definition	Timing
Age	Integer	Age as of the specimen collection date for SARS-CoV-2 lab test	Table 1: Determined at March 7, 2021; Table 2: Determined at the specimen collection date for SARS-CoV-2 lab test during the study period (December 14, 2020 to March 7, 2021)
Sex	Female/male	As defined in VHA data	Most recent available
Race/ethnicity	Non-Hispanic Black Hispanic any race Non-Hispanic White Other	Black: non-Hispanic black Hispanic: Hispanic any race White: non-Hispanic white Other: non-Hispanic other race, missing race, declined to state, unknown	Most recent available
Rurality	Highly Rural Rural Urban	VHA defined based on the Rural-Urban Community Area (RUCA) system [https://www.ruralhealth.va.go v/rural-definition.asp]	Most recent available
VHA defined priority group	1, 2, 3, 4, 5, 6, 7, 8	VA defined based on factors including military service history, disability rating and income level to identify Veterans to determine enrolment priority; 1 is the highest priority [https://www.va.gov/health-care/eligibility/priority-groups/]	Most recent available
Nursing home use	0/1	1 = Any nursing home or long- term care indicated on an inpatient admission or place of disposition	During 2 years prior to and on date of specimen collection date for SARS-CoV-2 lab test
Health and Human Services (HHS) region	Region 1 Region 2 Region 3 Region 4 Region 5 Region 6 Region 7 Region 8 Region 9 Region 10	Region 1: (state abbreviation) CT, ME, NH, RI, VT Region 2: NJ, NY Region 3: DE, DC, MD, PA, VA, WV Region 4: AL, FL, GA, KY, MS, NC, SC, TN Region 5: IL, IN, MI, MN, OH, WI Region 6: AR, LA, NM, OK, TX Region 7: IA, KS, MO, NE Region 8: CO, MT, ND, SD, UT, WY Region 9: AZ, CA, HI, NV Region 10: AK, ID, OR, WA	Most recent available value based on location of patient's residence

Homeless	0/1	1= ICD-10 code Z59.0 or Z59.1 on any inpatient or outpatient record	During 2 years prior to specimen collection date for SARS-CoV-2 lab test
Low Income	0/1	1 = income less than 12,760, but not missing income 0 = missing or income greater than equal to 12760	During 2 years prior to specimen collection date for SARS-CoV-2 lab test
Quan-CCI	Numeric	Using ICD-10 codes from any inpatient or outpatient record, computed Charlson Comorbidity Index, Quan's version [Quan H, Sundararajan V, Halfon P, Fong A, Burnand B, Luthi JC, et al. Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Medical Care 2005; 43(11):1130-1139. DOI: 10.1097/01.mlr.0000182534.19 832.83]	During 2 years prior to and on date of specimen collection date for SARS-CoV-2 lab test
ВМІ	Normal Overweight/obese Missing	Normal: BMI less than 26 Overweight/obese: BMI greater than or equal to 26	During 2 years prior to and on date of specimen collection date for SARS-CoV-2 lab test
Comorbidities		All comorbidities listed below have 1 inpatient or 2 outpatient records with the corresponding ICD-10 code	During 2 years prior to and on date of specimen collection date for SARS-CoV-2 lab test
Asthma	0/1	ICD-10 code J45* ICD-10 code J44.9* ICD-10 code J67.8*	
Cancer	0/1	Charlson condition definitions using ICD-10 codes	
Cancer metastatic	0/1	Charlson condition definitions using ICD-10 codes	
Coronary artery disease	0/1	ICD-10 code I 25*	
Congestive heart failure		Charlson condition definitions using ICD-10 codes	
Chronic kidney disease	0/1	ICD-10 code N18*	
Chronic obstructive pulmonary disease	0/1	Charlson condition definitions using ICD-10 codes	
Cardiovascular disease	0/1	Charlson condition definitions using ICD-10 codes	
Dementia	0/1	Charlson condition definitions using ICD-10 codes	
Diabetes mellitus with complications	0/1	Charlson condition definitions using ICD-10 codes	
Diabetes mellitus without complications	0/1	Charlson condition definitions using ICD-10 codes	
Dyslipidemia	0/1	ICD-10 code E78.5*	

HIV	0/1	Charlson condition definitions
	0,1	using ICD-10 codes
Hypertension	0/1	ICD-10 code H35.03
Tryperconsion	0,1	ICD-10 code I10*
		ICD-10 code I11*
		ICD-10 code I12*
		ICD-10 code I13*
		ICD-10 code I15*
		ICD-10 code I16
		ICD-10 code I67.4
Liver disease, mild	0/1	Charlson condition definitions
Erver disease, iiiid	0,1	using ICD-10 codes
Liver disease, severe	0/1	Charlson condition definitions
Erver disease, severe	0,1	using ICD-10 codes
Myocardial infarction	0/1	Charlson condition definitions
(history)	0/1	using ICD-10 codes
Para/hemiplegia	0/1	Charlson condition definitions
i ara/nempiegia	0/1	using ICD-10 codes
Peptic ulcer disease	0/1	Charlson condition definitions
replie dieer disease	0/1	using ICD-10 codes
Peripheral vascular	0/1	Charlson condition definitions
disease	0/1	using ICD-10 codes
Rheumatoid arthritis	0/1	Charlson condition definitions
Rneumatoid artiffus	0/1	
Renal disease	0/1	using ICD-10 codes Charlson condition definitions
Renai disease	0/1	
A . 1 C1 11	0/1	using ICD-10 codes
Atrial fibrillation	0/1	ICD-10 code I48.0
		ICD-10 code I48.11
		ICD-10 code I48.19 ICD-10 code I48.21
A	0/1	ICD-10 code I48.91
Anaphylaxis (history)	0/1	ICD-10 code Z87.892
Arthritis	0/1	ICD-10 code M15* through
Aiulius	0/1	M19*
Bleeding diathesis	0/1	ICD-10 code D69.9
bleeding diamesis	0/1	1CD-10 code D09.9
Bronchiectasis	0/1	ICD-10 code J47*
Dionemeetasis	0/1	TCD 10 code 347
Depression	0/1	ICD-10 code F33*
2 oprossion	0,1	
Down Syndrome	0/1	ICD-10 code Q90*
Embolism (history)	0/1	ICD-10 code I82*
		ICD-10 code I74*
		ICD-10 code I26*
Falls (history)	0/1	ICD-10 code W19*
Gout	0/1	ICD-10 code M1A*
Hepatitis B	0/1	ICD-10 code B19.1*
**	0/1	10D 10 1 D10 2%
Hepatitis C	0/1	ICD-10 code B19.2*
TT	0/1	ICD 10 and 570 2
Hyperlipidemia	0/1	ICD-10 code E78.2
	l	ICD-10 code E78.41

		ICD-10 code E78.49
TT	0/1	ICD-10 code E78.5
Hypersensitivity	0/1	ICD-10 code J67*
pneumonitis	0/1	ICD 10 1 100*
Interstitial lung disease	0/1	ICD-10 code J80*
		ICD-10 code J81*
		ICD-10 code J82*
		ICD-10 code J84*
Impaired mobility	0/1	ICD-10 code Z74.01
		ICD-10 code Z74.09
Musculoskeletal disorder	0/1	ICD-10 code M00* through
		M99*
Mycoses	0/1	ICD-10 code B35* through
		B49*
Obesity	0/1	ICD-10 code E66*
	0/1	IGD 10 1 F204
Paranoia	0/1	ICD-10 code F22*
		ICD-10 code F60*
Parkinson's	0/1	ICD-10 code G20*
Duranan an (history)	0/1	ICD-10 code Z33*
Pregnancy (history)	0/1	ICD-10 code 255*
Drug-induced anaphylaxis	0/1	ICD-10 code Z88*
Drug muuceu anapnyiaxis	0/1	Teb 10 code 200
Sickle cell disease	0/1	ICD-10 code D57*
Solid organ transplant	0/1	ICD-10 code Z94*
recipient		
Stroke / transient	0/1	ICD-10 code I63*
ischemic attach		ICD-10 code G45*
Urinary tract infection	0/1	ICD-10 code N39.0
Immunocompromised	0/1	ICD-10 code B20*
		ICD-10 code B59*
		ICD-10 code B97.3*
		ICD-10 code D47.Z1*
		ICD-10 code D70*
		ICD-10 code D71*
		ICD-10 code D72*
		ICD-10 code D73*
		ICD-10 code D76*
		ICD-10 code D80*
		ICD-10 code D81*
		ICD-10 code D82*
		ICD-10 code D83*
		ICD-10 code D84*
		ICD-10 code D89*
		ICD-10 code M05*
		ICD-10 code M06*
		ICD-10 code M07*
		ICD-10 code M08*
		ICD-10 code M30*
		ICD-10 code M31*
		ICD-10 code M32*
		ICD-10 code M33*
		ICD-10 code M34*
		ICD-10 Code M134

		ICD-10 code M35.0* ICD-10 code M35.9* ICD-10 code Q89.0* ICD-10 code T45.1X1 ICD-10 code Z21* ICD-10 code Z48.2* ICD-10 code Z51.0* ICD-10 code Z51.1* ICD-10 code Z94* [https://www.cdc.gov/vaccines/covid-19/downloads/us-flu-vaccine-effectiveness-network-	
Hematological malignancy	0/1	protocol-508.pdf] ICD-10 codes 81.70, 81.79, 81.90 ICD-10 codes 82.90 ICD-10 codes 84.10, 84.40 85.80 ICD-10 code C88.0 ICD-10 code C90.00 ICD-10 codes C91.00, 91.01, 91.10, 91.11, 91.40 ICD-10 codes C92.00, 92.01, 92.10, 92.11, 92.30 96.2 ICD-10 code D47.2	
Vaccination status	None Partial Full	None: until first vaccination date Partial: from 7 days after the first vaccination date and before the second vaccination date Full: from 7 days after the second vaccination date	Determined at the specimen collection date for SARS-CoV-2 lab test during the study period (December 14, 2020 to March 7, 2021)
Vaccine manufacturer	None Moderna Pfizer	None: no vaccination recorded Moderna: CPT codes 91301, 0011A, 0012A or vaccination name Pfizer: CPT codes 91300, 0001A, 0002A or vaccination name	Determined at date of first vaccination during the study period (December 14, 2020 to March 7, 2021)
Month of SARS-CoV-2 test	2020-Dec 2021-Jan 2021-Feb 2021-Mar	Month of the specimen collection date for SARS-CoV-2 lab test	Study period (December 14, 2020 to March 7, 2021)
Care setting for SARS- CoV-2 test	ED/At Admission Outpatient	ED/At Admission: Specimen collection date for SARS-CoV-2 lab test on the same date as ED visit or during an inpatient stay Outpatient: Specimen collection date for SARS-CoV-2 lab test on the same date as outpatient or urgent care visit	Assessed from specimen collection dates and visit dates during the study period (December 14, 2020 to March 7, 2021)
Health and Human Services (HHS) region	Region 1 Region 2	Region 1: (state abbreviation) CT, ME, NH, RI, VT	Most recent available value based on location of patient residency

	D : 2	D : 2 M M	T
	Region 3	Region 2: NJ, NY	
	Region 4	Region 3: DE, DC, MD, PA,	
	Region 5	VA, WV	
	Region 6	Region 4: AL, FL, GA, KY,	
	Region 7	MS, NC, SC, TN	
	Region 8	Region 5: IL, IN, MI, MN, OH,	
	Region 9	WI	
	Region 10	Region 6: AR, LA, NM, OK,	
		Region 7: IA, KS, MO, NE	
		Region 8: CO, MT, ND, SD,	
		UT, WY	
		Region 9: AZ, CA, HI, NV	
		Region 10: AK, ID, OR, WA	
Homeless	0/1	1= ICD-10 code Z59.0 or	During 2 years prior to specimen
Homeless	0,1	Z59.1	collection date for SARS-CoV-2
		on any inpatient or outpatient	lab test
		record	no test
Low income	0/1	1 = income less than 12,760,	During 2 years prior to specimen
		but not missing income	collection date for SARS-CoV-2
		0 = missing or income greater	lab test
		than equal to 12760	
Quan-CCI	Numeric	Using ICD-10 codes from any	During 2 years prior to and on date
		inpatient or outpatient record,	of specimen collection date for
		computed Charlson	SARS-CoV-2 lab test
		Comorbidity Index, Quan's	
		version [REF Quan H,	
		Sundararajan V, Halfon P,	
		Fong A, Burnand B, Luthi JC,	
		et al. Coding algorithms for	
		defining comorbidities in ICD-	
		9-CM and ICD-10	
		administrative data. Medical	
		Care 2005; 43(11):1130-1139.	
		DOI:	
		10.1097/01.mlr.0000182534.19	
		832.83]	
BMI	Normal	Normal: BMI less than 26	During 2 years prior to and on date
Bivii	Overweight/ obese	Overweight/obese: BMI greater	of specimen collection date for
	Missing	than or equal to 26	SARS-CoV-2 lab test
CAN Score	Wissing	Score to identify patients at	Most recent CAN score during 2
C. II (DOOL)		highest risk of hospitalization	years prior to and on date of
		and mortality. As indicated in	specimen collection date for
		VHA data. If missing, the score	SARS-CoV-2 lab test
		is assumed to be	SARS-COV-2 lab test
		zero.[https://www.va.gov/HEA	
		LTHCAREEXCELLENCE/abo	
		ut/organization/examples/care-	
		assessment-needs.asp]	
Mortality-1 year	Percentage of probability	Measurement of risk of	
Mortanty-1 year	1 creemage of probability		
Montality 00 dazza	Dargantage of nychobility	mortality in next year Measurement of risk of	
Mortality-90 days	Percentage of probability		
T 1	Demonstrate of analysis:	mortality in the next 90 days	
Event-1 year	Percentage of probability	Measurement of risk of any	
		visit or event in the next year	

Event-90 days	Percentage of probability	Measurement of risk of any	
Event-90 days	r creemage or probability	visit or event in the next 90	
II	D	days	
Hospitalization-1 year	Percentage of probability	Measurement of risk of a	
TT 1: 1: 00 1	B	hospitalization in the next year	
Hospitalization-90 days	Percentage of probability	Measurement of risk of a	
		hospitalization in the next 90	
		days	
COVID-19 symptoms		Symptoms as indicated from a	+/- 14 days around and including
		combination of text search on	the COVID-19 lab test specimen
		inpatient admissions, ICD-10	date.
		codes, or as indicated in the	
		COVID Domain	
Any	0/1	Any one of the listed symptoms	
None	0/1	Missing all of the listed	
None	0/1		
Fever	0/1	symptoms ICD-10 code R50.9*	
rever	0/1	COVID domain variable	
G1 4 G1 4	0/1	fever30d	
Shortness of breath	0/1	ICD-10 code R06.02* ICD-10 code R06.0*	
		ICD-10 code R09.02*	
		COVID domain variable	
	0.11	dyspnea30d	
Cough	0/1	ICD-10 code R05*	
		COVID domain variable	
		cough30d	
Loss of taste/smell	0/1	ICD-10 code R43.9*	
		ICD-10 code R43.8*	
		ICD-10 code R43.1*	
		ICD-10 code R43*	
		COVID domain variable	
		lossoftaste30d	
Chills	0/1	ICD-10 code R68.83*	
		ICD-10 code R68.89*	
		COVID domain variable	
		chills30d	
Diarrhea	0/1	ICD-10 code R19.7*	
		COVID domain variable	
		diarrhea30d	
Sore throat	0/1	ICD-10 code J02.8*	
		ICD-10 code J02.9*	
		COVID domain variable	
		sorethroat30d	
Myalgia	0/1	ICD-10 code M79.1*	
		COVID domain variable	
		myalgia30d	
Vaccination (other		Other pathogen vaccinations	The year prior to the specimen
pathogens)		identified by text search or CPT	collection date for SARS-CoV-2
r-saogens/		code (listed below)	lab test
Influenza (2019/20	0/1	CPT Code between 90655 and	1400
season)	V/ 1	90659, Q2034 and Q2039	
Scason)		CPT Code 90662	
	l	C1 1 Code 70002	

Influenza (2020/21	0/1	CPT Code between 90655 and	
season)		90659, Q2034 and Q2039	
		CPT Code 90662	

Abbreviations: BMI, body mass index; CAN Score, care assessment needs score; CPT, Current Procedural Terminology; ED, emergency department; HHS, Health and Human Services; International Classification of Diseases 10th Revision; VHA, Veterans Health Administration.

eTable 2. Estimated Vaccine Effectiveness Against Laboratory-Confirmed SARS-CoV-2 Infection for Patients with Hematological Malignant Neoplasms^a

VE, % (95%CI)							
Full vs. no vaccination Partial vs. no vaccination							
Unadjusted	Adjusted ^b	Unadjusted Adjuste					
72 (24, 89) 69 (17, 88) 36 (-21, 66) 16 (-65, 57)							

Abbreviations: BMI, body mass index; CI, confidence interval; VE, vaccine effectiveness.

^aSee *Supplemental* Table 1 for definitions of variables in this table.

^bThe adjusted variables include the following: age, BMI, cancer, congestive heart failure, chronic kidney disease, diabetes mellitus, hypertension, immunocompromised, VA priority level, race/ethnicity, sex, rurality.

eTable 3. Estimated Vaccine Effectiveness Against Laboratory-Confirmed SARS-CoV-2 Infection Among Veterans With COVID-19 Symptoms^a

	VE, % (95%CI)						
	Full vs. no	Full vs. no vaccination		vaccination			
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b			
Overall	94 (91, 96)	93 (89, 95)	61 (54, 66)	52 (44, 60)			
Age, years							
18-64	91 (72, 97)	88 (63, 96)	62 (41, 75)	59 (37, 74)			
≥65	91 (86, 94)	90 (84, 94)	45 (35, 54)	47 (37, 56)			
18-79	90 (84, 94)	90 (84, 93)	55 (45, 62)	50 (40, 58)			
≥80	91 (77, 96)	91 (77, 96)	51 (32, 65)	50 (30, 64)			
	VHA define	d priority group					
1-4	94 (87, 97)	94 (88, 97)	52 (38, 63)	50 (36, 62)			
5-6	85 (72, 92)	84 (70, 91)	45 (27, 58)	45 (27, 58)			
7-8	89 (76, 95)	88 (72, 95)	51 (33, 64)	47 (27, 61)			
	Race/et	thnic group					
Non-Hispanic Black	95 (83, 98)	95 (84, 98)	45 (23, 61)	40 (15, 57)			
Hispanic any race			29 (-51, 67)	42 (-27, 73)			
Non-Hispanic White	87 (80, 92)	86 (78, 91)	53 (43, 61)	49 (39, 58)			
Other			86 (54, 95)	80 (37, 94)			
		Sex					
Female	81 (21, 96)	72 (-19, 94)	82 (27, 96)	82 (27, 96)			
Male	91 (86, 94)	90 (85, 94)	51 (42, 58)	48 (39, 56)			
	Urb	an-rural					
Rural	90 (77, 95)	89 (76, 95)	50 (33, 63)	42 (22, 57)			
Urban	91 (85, 94)	89 (83, 93)	50 (39, 58)	50 (39, 59)			
]	BMI					
Overweight/Obese	89 (79, 94)	88 (77, 94)	46 (32, 58)	45 (30, 57)			
_	Underlying m	edical conditions					
Cancer	78 (52, 90)	77 (49, 90)	41 (6, 63)	54 (27, 72)			
Congestive heart failure	88 (70, 95)	85 (66, 94)	54 (32, 69)	48 (23, 65)			
Chronic kidney disease	86 (70, 93)	85 (67, 93)	59 (41, 72)	56 (36, 70)			
Diabetes mellitus	92 (85, 96)	91 (83, 95)	59 (47, 68)	51 (37, 62)			
Hypertension	89 (82, 93)	89 (82, 93)	51 (40, 60)	52 (41, 61)			
Immuno-compromised	81 (66, 89)	83 (69, 90)	39 (19, 55)	42 (22, 57)			

Abbreviations: BMI, body mass index; CI, confidence interval; VE, vaccine effectiveness.

^aSee Supplemental Table 1 for definitions of variables in this table.

^bThe adjusted variables include the following: age, BMI, cancer, congestive heart failure, chronic kidney disease, diabetes mellitus, hypertension, immunocompromised, VA priority level, race/ethnicity, sex, rurality.

eTable 4. Vaccination Status for Cases and Controls in Analysis of Estimated Vaccine Effectiveness Against COVID-19–Related Hospitalization and Death

COVID-19-related hospitalization						
	Unm	Matched ^b				
	Cases	Controls	Cases		Controls	
	(n=3,126)	(n=322,162)				
COVID-19 vaccination	on status					
Full	a	7,867		a	32	22
Partial	a	11,556		a	49	93
None	3,041	302,739	Full v.	Part v.	Full v.	Part v.
			None:	None:	None:	None:
			3,041	3,041	11,882	11,971
	CO	OVID-19-related deat	h			
	Unm	atched		Mat	ched ^b	
	Cases	Controls	Ca	ses	Controls	
	(n=657)	(n=328,589)				
COVID-19 vaccination	on status					
Full	0	8,068	0 72		2	
Partial	13	11,814	13 96		6	
None	644	308,707	Full v.	Part v.	Full v.	Part v.
			None:	None:	None:	None:
			644	644	2,504	2,532

^aA breakdown by full and partial vaccination status would violate federal cell size suppression policy. ^bThe number of cases and controls were different for the matched analysis for VE for full and partial vaccination.

eTable 5. Estimated Vaccine Effectiveness Against Laboratory-Confirmed SARS-CoV-2 Infection, Combining VA and CMS Data^{a,b}

	VE, % (95%CI)				
	Full vs. no v		Partial vs. no	vaccination	
	Unadjusted	Adjusted ^c	Unadjusted	Adjusted ^c	
Overall	96 (95, 97)	95 (93, 96)	71 (67, 75)	59 (52, 65)	
	Ag	e, y			
18-64	91 (83, 96)	90 (80, 95)	65 (52, 75)	64 (50, 74)	
≥65	93 (91, 95)	93 (90, 95)	53 (47, 59)	51 (44, 57)	
18-79	92 (88, 94)	92 (88, 94)	57 (50, 63)	56 (49, 62)	
≥80	93 (87, 97)	94 (88, 97)	52 (38, 62)	51 (37, 62)	
	VHA defined	priority group			
1-4	94 (90, 96)	94 (89, 96)	59 (50, 66)	52 (41, 60)	
5-6	89 (83, 93)	89 (82, 93)	46 (34, 56)	45 (32, 55)	
7-8	92 (84, 96)	92 (83, 96)	45 (30, 57)	52 (39, 63)	
	Race/eth	nic group			
Non-Hispanic Black	94 (88, 97)	94 (86, 97)	54 (40, 64)	50 (35, 62)	
Hispanic any race	86 (54, 96)	85 (50, 95)	47 (0, 72)	40 (-15, 68)	
Non-Hispanic White	91 (88, 94)	91 (87, 93)	53 (46, 60)	53 (46, 60)	
	S	ex			
Female	91 (61, 98)	87 (47, 97)	87 (59, 96)	85 (51, 95)	
Male	92 (90, 94)	92 (90, 94)	53 (47, 59)	53 (46, 58)	
	Urbai	n-rural			
Rural	93 (87, 96)	93 (87, 96)	60 (50, 68)	59 (48, 67)	
Urban	92 (89, 95)	91 (87, 94)	53 (46, 60)	49 (41, 56)	
	B)	MI			
Obese	91 (85, 95)	90 (83, 94)	44 (32, 53)	45 (35, 55)	
	Underlying me	dical conditions			
Cancer	82 (66, 91)	84 (70, 92)	53 (32, 68)	56 (36, 70)	
Congestive heart failure	87 (76, 92)	89 (80, 94)	64 (50, 74)	66 (52, 75)	
Chronic kidney disease	89 (82, 94)	90 (82, 94)	56 (42, 67)	53 (38, 65)	
Diabetes mellitus	92 (88, 95)	92 (88, 95)	59 (51, 66)	57 (48, 64)	
Hypertension	92%(88, 94)	91 (87, 94)	56 (49, 62)	54 (47, 61)	
Immunocompromised	85 (77, 91)	85 (77, 91)	44 (29, 56)	50 (36, 61)	

Abbreviations: BMI, body mass index; CI, confidence interval; CMS, Centers for Medicare and Medicaid Services; ICD-10, International Classification of Diseases 10th Revision; VA, Veterans Affairs; VE, vaccine effectiveness.

^aSince 2020, for VHA enrolled patients with Medicare who have either tested positive for SARS-Cov-2 at a VHA facility or who have a COVID-19 medical claim in Medicare (ICD-10 codes B97.29 ["Other coronavirus"] and U07.1 ["COVID-19"] diagnosis code in inpatient, skilled nursing facility, institutional outpatient, hospice, and carrier/Part B files), the VHA receives the patients' Medicare data with a 4-5 week lag time [REF https://vaww.virec.research.va.gov/VACMS/Medicare/COVID19-Data.htm].

^bSee Supplemental Table 1 for definitions of variables in this table.

^cThe adjusted variables include the following: age, BMI, cancer, congestive heart failure, chronic kidney disease, diabetes mellitus, hypertension, immunocompromised, VA priority level, race/ethnicity, sex, rurality.

eTable 6. Estimated Vaccine Effectiveness Against Laboratory-Confirmed SARS-CoV-2 Infection by Type of Diagnostic Test^a

LEC	поп	υy	ryp	e or D	nagnosu	c rest	

	VE, % (95%CI)							
	Full vs. no v	accination	Partial vs. no vaccination					
	Unadjusted	Adjusted ^b	Unadjusted	Adjusted ^b				
PCR test	96 (94, 97)	93 (90, 95)	71 (67, 74)	59 (53, 64)				
Antigen test	96 (88, 99)	97 (91, 99)	67 (46, 80)	70 (48, 82)				

Abbreviations: BMI, body mass index; CI, confidence interval; VE, vaccine effectiveness; VHA, Veterans Health Affairs.

^aSee Supplemental Table 1 for definitions of variables in this table.

^bThe adjusted variables include the following: age, BMI, cancer, congestive heart failure, chronic kidney disease, diabetes mellitus, hypertension, immunocompromised, VA priority level, race/ethnicity, sex, rurality.